



Patient education: High blood pressure in adults (Beyond the Basics)

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Literature review current through: **Nov 2024**.

This topic last updated: **Nov 03, 2023**.

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HIGH BLOOD PRESSURE OVERVIEW

Blood pressure refers to the pressure that blood applies to the inner walls of the arteries. Arteries carry blood from the heart to other organs and parts of the body. "Hypertension" is the medical term for high blood pressure.

WHAT IS BLOOD PRESSURE?

An individual's blood pressure is defined by two measurements:

- Systolic pressure is the pressure in the arteries produced when the heart contracts (at the time of a heartbeat)
- Diastolic pressure refers the pressure in the arteries during relaxation of the heart between heart beats

Blood pressure is reported as the systolic pressure over diastolic pressure (eg, 120/70 or "120 over 70").

Untreated high blood pressure increases the strain on the heart and arteries, eventually causing organ damage. High blood pressure increases the risk of heart failure, heart attack (myocardial infarction), stroke, and kidney failure.

HIGH BLOOD PRESSURE DEFINITION

The following definitions were proposed in 2017 by the American College of Cardiology/American Heart Association (ACC/AHA); other expert groups may differ slightly in how they define hypertension and when they recommend treatment.

Normal blood pressure — Less than 120 over less than 80.

Elevated blood pressure — 120 to 129 over less than 80.

People with elevated blood pressure are at increased risk of developing hypertension and cardiovascular complications; however, medications used to treat hypertension are not known to be beneficial in people with elevated blood pressure.

Hypertension

- Stage 1: 130 to 139 over 80 to 89
- Stage 2: At least 140 over at least 90

Most adults with hypertension have primary hypertension (formerly called "essential" hypertension), which means that the cause of the high blood pressure is not known. A small subset of adults has secondary hypertension, which means that there is an underlying and potentially correctable cause, usually a kidney or hormonal disorder.

Prevalence of high blood pressure

Hypertension is a common health problem. In the United States, approximately 46 percent of adults have hypertension.

Hypertension is more common as people grow older. In the United States, for example, it affects 76 percent of adults aged 65 to 74 years and 82 percent of adults aged 75 years or older.

Unfortunately, many people's blood pressure is not well controlled. According to a national survey, hypertension was in good control in only 47 percent of adults.

HIGH BLOOD PRESSURE RISK FACTORS

Although the exact cause of primary hypertension remains unclear, several risk factors have been identified. Your risk is higher if you:

- Are older (the risk increases with advancing age)

- Have obesity
 - Have a family history of hypertension (ie, relatives who had or have high blood pressure)
 - Are a Black person
 - Consume a lot of sodium (salt) in your diet
 - Drink a lot of alcohol
 - Do not get a lot of physical activity
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HIGH BLOOD PRESSURE SYMPTOMS

High blood pressure does not usually cause any symptoms.

HIGH BLOOD PRESSURE DIAGNOSIS

Hypertension is often identified through routine screening. Experts recommend that people 40 years and older without a history of hypertension have their blood pressure checked once a year; screening should happen more frequently in people with risk factors such as obesity or family history, or who have had elevated blood pressure in the past. For younger people without risk factors, screening every few years may be a reasonable approach.

If your blood pressure is found to be elevated or high during in-office screening, you may be asked to confirm the results by checking your blood pressure yourself at home. This is because in many cases, a person's blood pressure temporarily increases when it is taken by a doctor, nurse, or other medical professional in the office setting. This is sometimes called "white coat hypertension." Your health care provider will use the readings from your in-office blood pressure check and your at-home results to determine whether or not you have true hypertension.

HIGH BLOOD PRESSURE TREATMENT

Untreated hypertension can lead to a variety of complications, including heart disease and stroke. The risk of these complications increases as your blood pressure rises above 115/75, which is still in the normal range. Treating high blood pressure can reduce your risk of heart attack, stroke, and death.

Lifestyle changes — Treatment of hypertension usually begins with lifestyle changes. Making these lifestyle changes involves little or no risk. Recommended changes often include:

- Reduce the amount of salt in your diet

- Lose weight if you are overweight or have obesity
- Avoid drinking too much alcohol
- Stop smoking
- Exercise at least 30 minutes per day most days of the week

These changes are discussed in detail in a separate article. (See "[Patient education: High blood pressure, diet, and weight \(Beyond the Basics\)](#)".)

Medicine — A medicine to lower blood pressure may be recommended if your blood pressure is consistently high, usually at or above 140/90. Treatment with medicine is recommended at a lower blood pressure for some older people and for those with atherosclerosis (fatty deposits lining the arteries, as in coronary heart disease, stroke, or peripheral artery disease), diabetes, or chronic kidney disease complicated by protein in the urine. (See "[Patient education: Type 1 diabetes: Overview \(Beyond the Basics\)](#)" and "[Patient education: Type 2 diabetes: Overview \(Beyond the Basics\)](#)" and "[Patient education: Chronic kidney disease \(Beyond the Basics\)](#)".)

High blood pressure medicines are discussed in a separate article. (See "[Patient education: High blood pressure treatment in adults \(Beyond the Basics\)](#)".)

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: High blood pressure in adults \(The Basics\)](#)

[Patient education: Controlling your blood pressure through lifestyle \(The Basics\)](#)

[Patient education: Understanding your risk of high blood pressure \(The Basics\)](#)

[Patient education: Lowering your risk of heart disease \(The Basics\)](#)

[Patient education: Checking your blood pressure at home \(The Basics\)](#)

[Patient education: Preeclampsia \(The Basics\)](#)

[Patient education: Polycystic kidney disease \(The Basics\)](#)

[Patient education: The ABCs of diabetes \(The Basics\)](#)
[Patient education: Exercise and movement \(The Basics\)](#)
[Patient education: High blood pressure and pregnancy \(The Basics\)](#)
[Patient education: Renovascular hypertension \(The Basics\)](#)
[Patient education: High blood pressure emergencies \(The Basics\)](#)
[Patient education: Aortic dissection \(The Basics\)](#)
[Patient education: Coronary artery disease in women \(The Basics\)](#)
[Patient education: Medicines for chronic kidney disease \(The Basics\)](#)
[Patient education: DASH diet \(The Basics\)](#)
[Patient education: Blood pressure measurement \(The Basics\)](#)
[Patient education: Carotid ultrasound \(The Basics\)](#)
[Patient education: Diabetes and heart disease \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient education: High blood pressure, diet, and weight \(Beyond the Basics\)](#)
[Patient education: Type 1 diabetes: Overview \(Beyond the Basics\)](#)
[Patient education: Type 2 diabetes: Overview \(Beyond the Basics\)](#)
[Patient education: Chronic kidney disease \(Beyond the Basics\)](#)
[Patient education: High blood pressure treatment in adults \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Out-of-office blood pressure measurement: Ambulatory and self-measured blood pressure monitoring](#)
[Antihypertensive therapy and progression of nondiabetic chronic kidney disease in adults](#)
[Diagnosis of primary aldosteronism](#)
[Tapering and discontinuing antihypertensive medications](#)
[Cardiovascular risks of hypertension](#)
[Choice of drug therapy in primary \(essential\) hypertension](#)
[Definition, risk factors, and evaluation of resistant hypertension](#)
[Diet in the treatment and prevention of hypertension](#)
[Moderate to severe hypertensive retinopathy and hypertensive encephalopathy in adults](#)
[Initial evaluation of adults with hypertension](#)
[Management of severe asymptomatic hypertension \(hypertensive urgencies\) in adults](#)

Overview of hypertension in adults

Medication adherence in patients with hypertension

Perioperative management of hypertension

Renin-angiotensin system inhibition in the treatment of hypertension

Salt intake and hypertension

Establishing the diagnosis of renovascular hypertension

Prevention of cardiovascular disease events in those with established disease (secondary prevention) or at very high risk

Spontaneous intracerebral hemorrhage: Pathogenesis, clinical features, and diagnosis

Spontaneous intracerebral hemorrhage: Acute treatment and prognosis

Hypertension in adults: Blood pressure measurement and diagnosis

Metabolic syndrome (insulin resistance syndrome or syndrome X)

The prevalence and control of hypertension in adults

Antihypertensive therapy for secondary stroke prevention

Treatment of hypertension in patients with diabetes mellitus

Treatment of hypertension in patients with heart failure

Treatment of hypertension in older adults, particularly isolated systolic hypertension

Treatment of resistant hypertension

Goal blood pressure in adults with hypertension

Evaluation of secondary hypertension

The following organizations also provide reliable health information.

- National Library of Medicine
(www.medlineplus.gov/healthtopics.html)
- National Heart, Lung & Blood Institute (NHLBI)
(www.nhlbi.nih.gov)
- American Heart Association
(www.heart.org)

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ACKNOWLEDGMENT

We are saddened by the death of George Bakris, MD, who passed away in June 2024. UpToDate acknowledges Dr. Bakris's past work as a section editor for this topic.

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Topic 4416 Version 46.0

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